

**CITY OF PORTSMOUTH, NH
DEPARTMENT OF PUBLIC WORKS**

**RFP # 25-07
REQUEST FOR PROPOSAL AND QUALIFICATIONS
ENGINEERING SERVICES**

**CITY OF PORTSMOUTH WASTEWATER
FACILITIES PLAN UPDATE AND COMBINED SEWER OVERFLOW – LONG
TERM CONTROL PLAN UPDATE**

Sealed Request for Proposals, plainly marked RFP # 25-07, "Engineering Services, Wastewater Facilities Plan Update and Combined Sewer Overflow – Long Term Control Plan Update " on the outside of the mailing envelope, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, NH 03801 will be accepted until 2:00 p.m. on February 23, 2007.

SCOPE OF WORK: The City of Portsmouth's Department of Public Works is requesting proposals from consulting engineering firms who are on NHDES roster of pre-qualified consulting engineers for the following project: To provide engineering and planning services for the preparation of an update to the City's Wastewater Facilities Plan and Combined Sewer Overflow - Long Term Control Plan to develop the alternatives necessary to comply with EPA and NHDES regulatory requirements.

There will be a **mandatory pre-proposal meeting on February 6, 2007 at 10:00 a.m.** at the Department of Public Works, 680 Peverly Hill Road in Portsmouth, New Hampshire. All firms will have the opportunity to ask questions and tour the Peirce Island and Pease Wastewater Treatment Facilities after this meeting.

This Request for Proposals may be obtained from the Finance/Purchasing Department on the third floor at the above address, by calling the Purchasing Clerk at 603-610-7227, or from our website www.cityofportsmouth.com. **Please continue below for the complete Request for Proposal.**

The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, and to accept any proposal that it may deem to be in the best interest of the City.

If you have any questions please contact the Finance/Purchasing Department at the following number: (603) 610-7227 or Peter Rice at (603) 766-1416.

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REQUEST FOR PROPOSALS**

ENGINEERING SERVICES

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FUNDING

This project will be funded through a State Revolving Fund Loan.

MANDATORY PRE-PROPOSAL MEETING

There will be a **mandatory pre-proposal meeting on February 6, 2007 at 10:00 a.m.** at the Department of Public Works, 680 Peverly Hill Road in Portsmouth, New Hampshire. All firms will have the opportunity to ask questions and tour the Peirce Island and Pease Wastewater Treatment Facilities after this meeting.

PROJECT BACKGROUND/PURPOSE

The City of Portsmouth (City) is located in Rockingham County at the mouth of the Piscataqua River in the seacoast area of New Hampshire. The City of Portsmouth's sewerage system consists of approximately 100 miles of sewers (including the Pease International Tradeport), 20 pumping stations, and a 4.8 million gallon per day (mgd) advanced primary wastewater treatment facility (WWTF) located on Peirce Island as well as a secondary wastewater treatment sequenced batch reactor facility at the Pease International Tradeport. The City has an inter-municipal agreement with the Town of Newcastle, an island to the northeast of Portsmouth, to treat their wastewater at the City's Peirce Island WWTF. Additionally, the City has entered into a long-term Municipal Services Agreement (MSA) with the Pease Development Authority (PDA) to maintain and operate the wastewater collection and treatment facilities at the Pease International Tradeport, and has other agreements with Rye, New Hampshire on behalf of Adams Mobil Home Park and with two private entities located in Greenland, New Hampshire. Approximately 60% of the City's collection system (exclusive of Pease) consists of combined sewers which carry both wastewater and stormwater, portions of which are over 100 years old. These combined areas generally occur in the older urbanized portions of the City. Since the 1970s, the City has undertaken numerous separation projects, facility expansion, and repair projects

aimed at eliminating the majority of the discharges to the Piscataqua River. Currently, there remain three permitted combined sewer overflows (CSOs) two of which discharge to South Mill Pond and one to the Piscataqua River near the intersection of Deer and Market Street.

EPA has issued a Tentative Decision on the City's application for the renewal of the Pierce Island Treatment Facility's National Pollutant Discharge Elimination System (NPDES) permit that does not include a Section 301(h) waiver from secondary treatment requirements. This change in permit status creates the need to update the City's Wastewater Facilities Program and the City's on-going Combined Sewer Overflow - Long Term Control Plan (LTCP). This engineering planning effort is intended to provide a road map for the City's wastewater capital investments which will have impacts for the next 50 to 100 years. A detailed Wastewater Facilities Plan is necessary to ensure that a thorough evaluation of viable secondary treatment options is conducted to make certain an environmentally sound, sustainable and fiscally responsible alternative is selected. At the September 7, 2006 public hearing held by EPA, the City Manager and members of the City Council indicated the City's strong interest in evaluating secondary treatment options, as well as nutrient removal options, at one or more locations other than at the existing Pierce Island facility. This proposed study will give the City Council, Portsmouth residents and regulating authorities the opportunity to participate in the decision making process to ensure they understand the significant investments necessary to comply with the new treatment requirements.

Past Planning

In 1991 Whitman and Howard, Inc. prepared a CSO abatement program, which recommended a swirl concentrator to treat the Combined Sewer Overflows at CSO's 10A and 10B. However, due to upstream flooding the City focused on addressing excess flow and capacity limitations in the collection system. In 1998, during meetings with the EPA and NHDES it was stated that the proposed solution of swirl concentrator alone would not meet water quality standards. As a result, the EPA required that the City conduct a CSO- Long Term Control Plan (LTCP) to revisit the options available to address the remaining CSOs. This LTCP was completed in 2002 and revised in April 2005.

The LTCP focuses on controlling overflows at outfalls #10A and #10B, located on the South Mill Pond, and outfall # 013 located at the end of Deer Street and the Piscataqua River. These 3 outfalls along with one other, manually gated outfall #012 located on Marcy Street, are specifically included in the City's National Pollutant Discharge Elimination System (NPDES) Permit. In addition, the LTCP provides a program to address the problems with upstream flooding and backups within the combined sewer system.

Due to the magnitude and complexity of the LTCP, a 2-phase approach was proposed to be implemented over 15 to 20 years. This plan was also presented in the City's Preliminary Design Submission letter to EPA in March 2003. Phase 1 of the LTCP consists of a 15-year plan to address the system conveyance capacity, by implementing targeted sewer separation projects, upgrading main sewage pumping stations, and providing additional treatment facilities for separated storm water. Phase 2 included reevaluation of the system conditions following completion of the Phase 1 projects to define any additional controls required to prevent untreated discharges to the receiving waters.

Since the 2002 submission of the LTCP, the City has completed four sewer separation projects and is currently under-construction at the Deer Street Pumping Station, starting construction on the Borthwick Avenue Sewer Project and preparing to bid Islington Area Project 1. In addition, the City plans on continuing sewer separation projects throughout this study.

Peirce Island

The current site of the Peirce Island Wastewater Treatment Facility has a rich history linked to the sea, agriculture and Revolutionary War military defense. Fort Washington, a Revolutionary War defense post, was built on the northeast banks of Peirce Island around 1775 and the remnant sod walls of the fort are still visible. The Fort served as one of the primary defenses of several shipyards further up the Piscataqua River. Peirce Island has an abundance of natural resources including undeveloped wooded areas, grassy meadows, salt marshes, sandy beaches, tidal mudflats and steep rocky cliffs. The Island also provides outstanding views in all directions, particularly from the east end, which has the highest elevation.

Since the late 1990s, the City has carried out roughly \$1 million dollars in recreational and natural resource protection improvements on the island, which were funded with hard won federal grant dollars from the National Park Service, the National Oceanic and Atmospheric Administration, and U.S. Housing and Urban Development; City general fund dollars; and extensive donations from community groups and residents. The Peirce Island recreational improvements have enjoyed broad and extensive community support from Portsmouth's City Council, the City Council-appointed Peirce Island Committee, Conservation Commission, Recreation Board and Planning Board as well as residents, businesses and many non-profit agencies.

In recognition of its historical and recreational significance, the Portsmouth City Council endorsed a Peirce Island Master Plan in 2000. The Plan outlines a series of recreational improvements for the 27-acre island in recognition of its exceptional natural, historic and recreational resource value and its particular uniqueness due to its location immediately adjacent to Portsmouth's historic downtown.

Today, the western end of Peirce Island is home to the municipal outdoor pool, two playgrounds, stonedust walking paths, picnic areas, the municipal boat launch, and the state fish pier. The Island's eastern end provides an extensive handicapped accessible walking trail system with granite waterfront overlooks and interpretive signage.

The Island's outdoor pool, playgrounds, volleyball court, walking trail system and boat launch are extensively used by residents and visitors. The Island is used for special events such as the annual Rotary chicken barbecue and tall ship viewing activities as well as weddings and family outings and shorefront fishing.

WORK PROGRAM

The tasks outlined below are intended to be consistent with the 1981 EPA Facilities Planning (430/9-81-002) document for Municipal Wastewater Treatment. The Plan of Study shall generally follow the NHDES Report Phase requirements.

The components of the study will include, at a minimum, the following items:

- An evaluation of the present Peirce Island site to expand to secondary treatment
- An evaluation of redirecting wastewater flow to the Pease WWTF or some other location or locations
- An evaluation of redirecting a portion of the City's wastewater flow to allow the Peirce Island plant to remain within the existing footprint, and

- An evaluation of existing regional wastewater treatment options, including participating in a new regional treatment plant either owned by the City or some regional organization.

In addition to the secondary treatment facility study, a separate study will be conducted to update the City's on-going Combined Sewer Overflow - Long Term Control Plan (LTCP). The LTCP was based in part on the Peirce Island WWTF having a 301(h) waiver and a capacity of 22 million gallons per day. Potential changes to the Peirce Island Wastewater Facility and City's collection system will impact the on-going LTCP.

TASK 1 PLAN OF STUDY PREPARTION

The City will go through a procurement process for engineering service based on qualifications. The selected consultant will prepare Plan of Study for both the CSO and Secondary Treatment options that will be submitted to the City, the EPA and the New Hampshire Department of Environmental Services for review and approval. Included in this Plan of Study shall be the proposed Scope of Work, schedule, and cost of planning to be undertaken.

TASK 2 WASTEWATER FACILITIES PLAN UPDATE

Task 2a Basis of Design

The Consultant shall meet with City staff, adjacent communities and regional planning groups to define the project area to be evaluated. This step is intended to develop wastewater flow and load projections to establish a basis of design for evaluating various alternatives. In addition to wastewater projections, consideration should be given to the potential septage disposal needs from the Seacoast Region. At the conclusion of this sub-task the consultant shall prepare a letter report which summarizes the initial findings and criteria used to project future wastewater flows and loads. The Consultant shall meet with City staff for review and approval prior to finalizing the basis of design criteria.

Task 2b Review All Applicable EPA & DES Requirements

Task 2c Inventory Problem Areas Outside of the CSO-LTCP Area

The Consultant should review past reports and City records to determine if identified problem areas may be incorporated into any final sewer system upgrades. From that review a suggested list of projects should be developed and presented to the City.

Task 2d Wastewater Treatment Alternatives Evaluation

The components of the study will include at a minimum the following possible options for complying with new secondary treatment requirements.

- An evaluation of the present Peirce Island site to expand to secondary treatment
- An evaluation of redirecting wastewater flow to the Pease WWTF or some other location or locations
- An evaluation of redirecting a portion of the City's wastewater flow to allow the Peirce Island plant to remain within the existing footprint, and
- An evaluation of existing regional wastewater treatment options, including participating in a new regional treatment plant either owned by the City or some regional organization.

All treatment plant alternatives shall include detailed evaluation for septage acceptance and sludge handling and disposal options. This task shall include a preliminary screening of all potential options during a work session meeting. This evaluation will include preliminary survey, geotechnical investigations, conceptual layout, preliminary hydraulic grade-line, O&M and present worth cost which will allow the City to select the final option. The City is interested in a long term sustainable solution. The City would like to provide the best economical and sustainable treatment technology (i.e. nutrient removal) to meet current and future needs. At the conclusion of this task the Consultant shall recommend one alternative the City should pursue.

Task 2e Permitting Concerns

For each option evaluated, develop spreadsheet matrix for permits and associated fees required locally, statewide or federally for each project. Develop “approvals” checklist to be utilized when projects are being reviewed for construction.

Task 2f Write-up Wastewater Facilities Plan

- Prepare and present (8) copies of the draft report to City for review and comment.
- Submit copies of draft report for EPA and NHDES review and comment
- Meet with EPA and NHDES to review comments to draft report
- Finalize report and submit twenty (20) copies to the City.
- Provide digital copy of study and all figures in a format approved by City.

TASK 3 COMBINED SEWER OVERFLOW – LONG TERM CONTROL PLAN UPDATE

In addition to the secondary treatment plant, this study will include an update of the City’s on-going Combined Sewer Overflow - Long Term Control Plan (LTCP). The current LTCP was based in part on the Peirce Island WWTF having a 301(h) waiver and a capacity of 22 million gallons per day. If the selected option in Task 2 above changes the capacity of the Peirce Island WWTF or if the wastewater is redirected to another WWTF, the LTCP will have to be changed. In addition, the City sees this study as an opportunity to validate the previous LTCP by using costs from actual projects and flow monitoring since a number of separation projects have been completed.

The following is an outline of tasks envisioned necessary to update the 2002 (finalized in 2005) LTCP prepared by Underwood Engineers, Inc. The evaluation of wastewater treatment options may drive LTCP alternatives or vice versa, the LTCP solutions may drive the wastewater treatment option selected. It is critical to view both programs as a whole not as two separate programs which do not affect each other. The recommended LTCP must comply with water quality standards applicable to the designated receiving waters. The development of the LTCP shall utilize, to the extent possible, sewer system, CSO, and receiving water characterization information already provided in the 2002 (finalized in 2005) Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) prepared by Underwood Engineers, Inc, information provided in the 1991 report by Whitman & Howard, Inc. entitled “Combined Sewer Overflow Abatement Program, Portsmouth, New Hampshire” and other sources of existing information.

Upon completion of the LTCP update, the Consultant shall prepare a separate document:

- Prepare and present (8) copies of the draft report to City for review and comment.

- Submit copies of draft report for EPA and NHDES review and comment
- Meet with EPA and NHDES to review comments to draft report
- Finalize report and submit twenty (20) copies to the City.

Provide digital copy of study and all figures in a format approved by City.

TASK 4 PUBLIC & REGULATORY PARTICIPATION PROGRAM

The success of this Wastewater Facilities Planning effort will greatly depend upon on the acceptance of the plan by interested stake holders, regulatory agencies and Portsmouth residents. The selected Consultant shall prepare a public participation program to educate and solicit input from general public and interested stake holders. This program shall include a public education session covering the steps necessary to perform a study of this magnitude and provide a brief introduction to wastewater collection and treatment. Additional “Listening Session” meetings may be necessary to allow public the opportunity to express their views as to potential impacts and desired outcomes.

TASK 5 FUNDING PROGRAMS

The selected Consultant shall evaluate availability of funding and eligibility of projects for funding and prepare financial strategies to maximize funding assistance and minimize rate impacts. The Consultant shall work with City Staff to incorporate the program costs into the City’s Water and Sewer Rate Model.

TASK 6 ENVIRONMENTAL IMPACTS

Each alternative will be evaluated with regard to the potential positive and negative impacts on the environment. Short-term construction and long-term operational impacts to both the human and natural environment will be addressed. The focus of the analysis shall be of the effects anticipated to occur as a result of the implementation of the different alternatives evaluated.

In order to evaluate the potential significance of identified impacts, evaluation criteria will be identified for each environmental parameter. These criteria will be based on relevant regulatory thresholds and performance standards or qualitative guidelines as appropriate, which will provide a basis for assessing potential impacts.

TASK 7 ADDITIONAL PROJECT REQUIREMENTS

7a Project Meetings

In addition to other project related meetings discussed above the selected Consultant shall attend monthly project meetings for the duration of this project. These project meetings will be used to convey information, review previous months work completed, review current invoice and project burn rate. Depending upon the work accomplished or need, the meetings may be at the City, at the Consultant’s office or via teleconferencing.

7b Project Management Program

Prepare and submit a management program that outlines the data management and budget control strategy that will be used to ensure the program is accomplished within budget and on schedule.

Schedule

Advertise for Request for Proposals	January 2007
Mandatory Pre-proposal Meeting	February 6, 2007
Open Proposals	February 23, 2007
Interview	March, 2007
Select Consultant	March, 2007
Negotiate Scope of Services	March – April 2007
Execute Contract	April, 2007

The City will work with the successful consultant to finalize the schedule.

CITY ROLE

City staff will be responsible for administering the project and overseeing the consultant's work on this project. Representatives of the City's Public Works Department will review reports and other documents prepared by the consultant.

Additional information will be available for the Consultant's review after the pre-proposal meeting. This information along with the reports listed below will be available at the Public Works Department, 680 Peverly Hill Road, Portsmouth, NH from 8:00 a.m. to 4:00 p.m. Monday through Friday:

- City-wide Master Plan
- 1977 201 Wastewater Facilities Plan
- 1999 201 Wastewater Facilities Plan Update
- 1990 CSO Abatement Program
- 2002 CSO – Long Term Control Plan
- Preliminary Design - Lincoln Area Targeted Separation

SUBMITTAL REQUIREMENTS

Proposals shall include the following:

- Brief history of the firm.
- Names and qualifications of specific project staff that will play the primary role in this project
- Description of relevant previous projects which these specific project staff have played a central role in developing.
- Scope of work and proposed schedule.
- Three (3) references, including current contact name and phone number for similar project. Provide a description of each project reference. References should be for similar projects performed in New England, specifically those in New Hampshire. References shall include contact person and telephone number.

- Seven (7) copies of the proposal must be submitted.
- One (1) example of similar Wastewater Facilities Plan and CSO - Long Term Control Plan complete with appendices. Include scope of work and budget of the example project.

Sealed Request for Proposals, plainly marked RFP #25-07, " Engineering Services, Wastewater Facilities Plan Update and Combined Sewer Overflow – Long Term Control Plan Update " on the outside of the package, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, NH 03801 will be accepted until 2:00 p.m. on February 23, 2007.

EVALUATION CRITERIA

All proposals will be evaluated based on the following criteria:

1. Understanding of the project requirements and City's needs as reflected by proposed scope of services to accomplish the project, including schedule;
2. Firm's qualifications as measured by history, experience, proposed project team, references, understanding of the City's systems and similar factors;
3. Innovative approach to meeting the City of Portsmouth's Sustainability goals as outlined by the most recent City Master Plan; and
4. Quality of example Wastewater Facilities Plan and CSO - Long Term Control Plan

Upon review of all responsive proposals the City may select three (3) or more firms to interview. Upon completion of the interviews the City will attempt to negotiate a Scope of Services and fee with the highest scoring firm.

The City of Portsmouth reserves the right to reject any or all proposals, to waive technical or legal deficiencies, and to accept any proposal that it may deem to be in the best interest of the City. The City reserves the right to negotiate directly with the firm(s) selected for additional project work including design, construction administration services, and/or additional project engineering and design services.

The City also reserves the right to make such inquiries regarding the firm's qualifications and reputation as it deems necessary to evaluate the firm. The firm may be requested to execute releases to obtain information from third parties. Failure to execute a release upon request may result in disqualification.

CONTRACT DOCUMENT

All information, data, documents, photos, computer records, and other materials of any kind acquired or developed by the consultant pursuant to this project shall be the property of the City of Portsmouth.

ADDITIONAL INFORMATION

If you have any questions please contact the Finance/Purchasing Department at the following number: 603-610-7227 or Peter Rice, P.E., City Engineer, Water and Sewer Divisions at 603-766-1416 or Paula Anania, Chief Plant Operator at 603-427-1553.